

REMARKS

Claims 1-6 and 14-15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. (JP 2000-275685), in view of Bradshaw et al. (U.S. Patent No. 4,969,719). In response, Applicants amended independent claims 1 and 14 to further define the cooling rates of the liquid crystal, and respectfully traverse the rejection as it applies to the amended claims.

Shimizu is directed to a liquid crystal element and liquid crystal device equipped with the same. Shimizu does not disclose the cooling rates, as now described in the presently amended claims 1 and 14. Rather, Shimizu merely discloses cooling of the liquid crystal to a chiral smectic liquid crystal phase (paragraphs [0102] and [0150]), or to room temperature (paragraph [0137]).

Bradshaw also fails to disclose or suggest the cooling rates, as now recited in the claims. That is, a period in which the temperature of the liquid crystal is kept within a temperature range showing either one of a cholesteric phase and a chiral nematic phase. Bradshaw merely discloses cooling is at a rate of between 0.05° and 2°C/minute within +/- 5°C of the transition between the smectic/cholesteric phase transition. (See col. 6, lns. 42-46). Bradshaw does not teach the rate of cooling recited in the amended claims. More specifically, the cooling rate of the present invention starts from a temperature of an isotropic phase, and cooling is performed at a rate of 3 to 10 °C/minute, while Bradshaw cools at a rate of between 0.05° and 2°/minute, which is a much smaller value. Thus, it takes a longer time

for performing cooling in Bradshaw as compared to the present invention, which cools from a temperature 5°C above the phase transition. Thus, unlike Bradshaw, the present invention advantageously provides an easier and quicker way of cooling and alignment of the liquid crystal when the cooling begins from a temperature equal to or higher than the cholesteric/isotropic transition temperatures. For these reasons, withdrawal of the §103 rejection of claims 1-6 and 14-15 is respectfully requested.

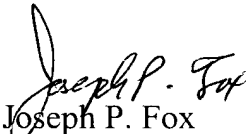
Claim 7 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu, in view of Bradshaw, and further in view of Yoshinaga et al. (U.S. Patent No. 6,791,527 B2). Applicants traverse the rejection for the reasons recited above with respect to the rejection of independent claim 1. Yoshinaga is merely cited by the Examiner as disclosing a back-light driven by a field-sequential color scheme. However, Yoshinaga fails to overcome the deficiencies of Shimizu and Bradshaw. Therefore, for at least the reasons recited above, Applicants respectfully request that the §103 rejection of claim 7 also be withdrawn.

For all of the foregoing reasons, Applicants submit that this Application is in condition for allowance, which is respectfully requested. The Examiner is invited to contact the undersigned attorney if an interview would expedite prosecution.

Respectfully Submitted,

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